Restructuring A Northern Alberta Rail/Road Intermodal System

Where Do We Go From Here? . . .

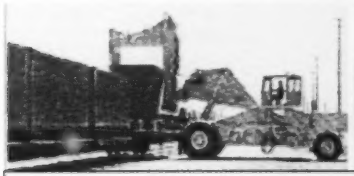
Peace River Pulp

Peace River Bridge to North Peace

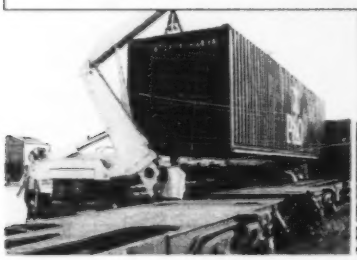
Watino Bridge to South Peace

Loading Marine Export Containers at Nampa For Long Haul Highway Transport

Can Peace Region Short Line Railways Extend Container Transport From Westcoast Ports Or Edmonton Terminals?



With Mobile Lifting Equipment . . . that could initially be made available at Nampa (above) . . . .
Or with Side Lift Trailers . . . . that could extend rail container service to Falher (below) . . . and beyond. . .



Or with a more permanent terminal (GP Reload above) for higher capacity service to larger shippers at Grande Prairie and/or McClennan or . . . .

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March 31, 2003

Final Report

PEACE REGION ACCESS TO CONTAINER TRANSPORTATION

A Discussion Paper Outlining Potential Opportunities For Restructuring A Northern Alberta Rail/Road Intermodal System

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Northern Alberta Development Council

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PEACE REGION ACCESS TO CONTAINER TRANSPORTATION

A Discussion Paper Outlining Potential Opportunities For Restructuring A Northern Alberta Rail/Road Intermodal System

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PEACE REGION ACCESS TO CONTAINER TRANSPORTATION

A Discussion Paper Outlining Potential Opportunities For Restructuring A Northern Alberta Rail/Road Intermodal System

1. Summary And Introduction

This report provides an assessment of the prospects for extending rail-based container service into the Peace Region. The results of this assessment are a background paper to stimulate discussion of the desirability and viability of Peace Region container transportation access.

Specific objectives of this discussion paper are to determine:

- Current and potential users of containerized transportation.
- Current and potential providers of containerized transportation.
- Comparative cost and service characteristics of truck, rail car and container transport.
- Long range demand and supply scenarios for Peace Region containerized transportation.
- Current opportunities and constraints for rail container service extended to the Peace Region.

In summary this study finds that Peace Region container transportation access is:

- Used primarily for offshore export through B.C. Ports.
- Provided by truck via Edmonton or Vancouver Container Terminals.
- A relatively high volume market of lower value, cost sensitive commodity shipments.
- Attractive for export expansion and identity preservation of specialty agri-food products.
- An incentive to substitute rail for highway transport and reduce greenhouse gas emissions.
- Not sufficiently profitable for CN to provide competitive rates for connecting short lines; but
- beneficial for export baseloading to further lower handling cost and divert long haul trucking.

In conclusion, this study suggests incremental set up of Peace Region container service with:

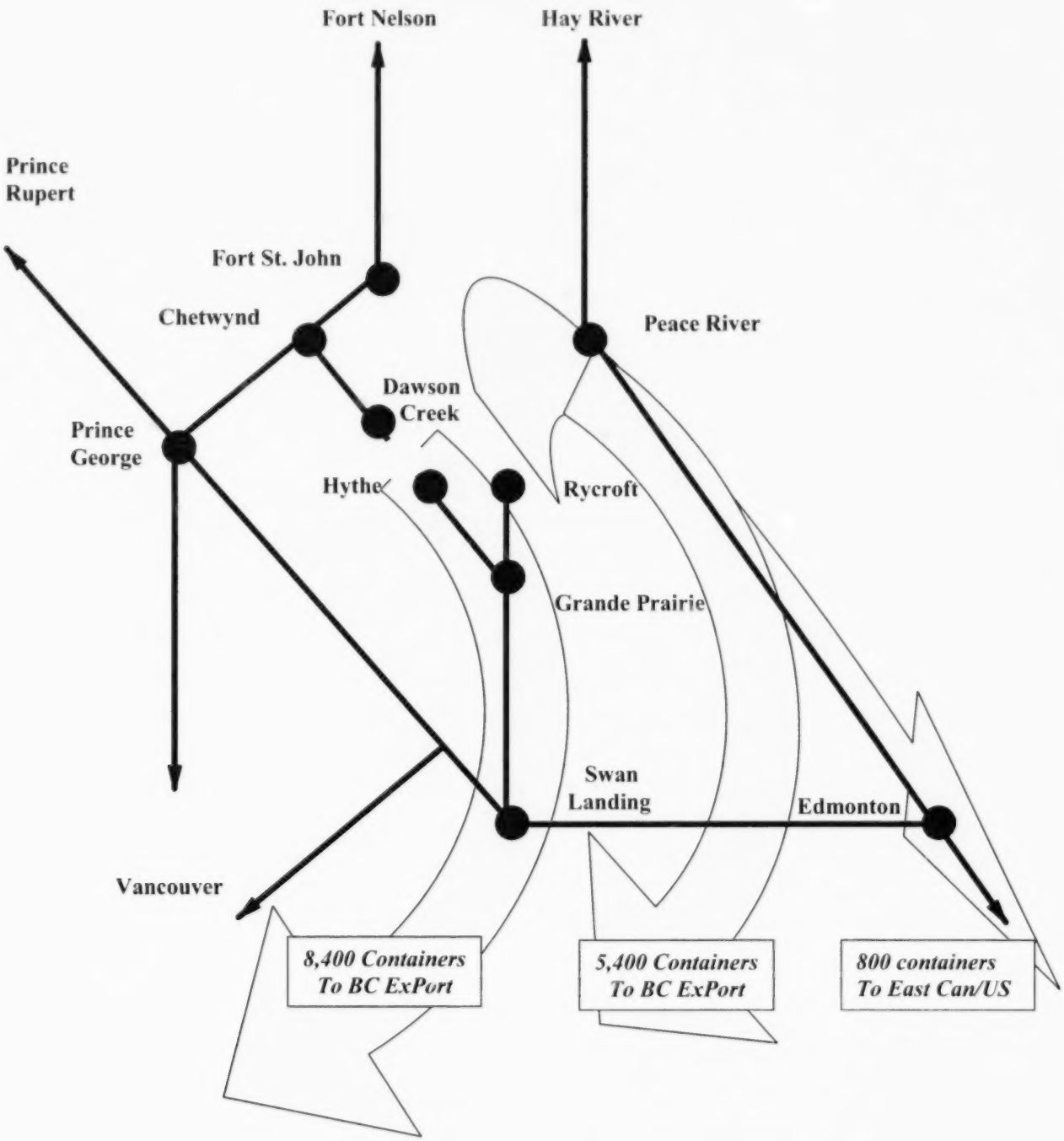
- A basic North/East Peace container facility focussed on compressed hay exports.
- A flexible, extended container capability focussed on smaller Peace Region shippers.
- A permanent, full service container terminal focussed on the larger South Peace shippers.

This incremental approach assumes that initially a low-volume, mobile container handling facility can avoid splitting a slender market among multiple container terminals on separate unconnected regional short line railways. As container traffic builds to a higher volume threshold, subsequent investment in full service terminal(s) and high capacity lifting capability can reduce costs, improve service and allow each short line connection to realize full market potential.

On the following page, that full market potential is superimposed on a schematic route map of the Peace Region rail network.

PEACE REGION RAIL/CONTAINER MARKET

Regional Railway Network



2. Container Users Survey

This section reports results of a survey of major Peace Region shippers who are current or potential users of containerized transportation. It provides an assessment by geographical and commodity submarkets according to rail, truck and intermodal transportation. The survey was designed to project a near term annual forecast of:

- Railcar traffic in the Peace Region for three regional short line railways - *91,500 carloads*
- Extent of truck traffic reloaded inland to railcars or at port to bulk ships - *23,800 truckloads*
- And, containers transloaded from trucks at B.C. Port Terminals - *8,400 truckloads*
- Or, containers moved by trucks to Alberta Intermodal Terminals - *6,200 truckloads*
- Plus, container equivalents of Peace Region "big box" retailer truck traffic - *3,000 truckloads*

2.1 Outbound Users of Container Transportation

In order to determine the extent of the outbound market for rail-based container transportation access in the Peace Region, a shipper survey was conducted. Survey contacts were predetermined by Northern Alberta Development Council with supplementary contacts added by PROLOG. This survey consisted of selected in-person interviews, with the balance of interviews conducted by telephone.

The survey was comprehensive and included:

- 25 Forest Products Shippers of Pulp, Dimensional Lumber and Oriented Strand Board
- 22 Agriculture Products Shippers of Grain, Seeds, Oats, Peas and Hay
- 10 Inbound "Big Box" Retail shippers to the Peace Region.

Tabulated survey results are provided on the following page, based on interviews.

Peace Region Rail/Container Market Summary (2002/2003)

	PEACE REGION RAIL MKT <Carloads>				PEACE REGION INTERMODAL/TRUCK MKT < truckloads > | < containers @ 20-25 tonnes/load > | <20'Units >												
BC Peace	Railcar	RAIL TO:			Truck	TRUCK TO:				Via BC Port Trf To:			Via AB Cntr Term		Total Containers	
	Loads	*BC Port*	*US West*	*East*	Loads	Reload	US West	Can West	*Bulk Ship*	*Cntr Ship*			*To East*	*To West*	*Loads*	*TEUs*
PULP	2,333	933		1,400	525					525	750				750	1500
SULPHUR	1,337	1,337														
LUMBER	11,244	70	2,244	8,930	6,680	5,900	390	390								
GRAIN	4,500	4,500			250	250										
GRASS SEED					50	25	[25 trucks trf to 50 containers at Edmonton]						50		50	100
Outbound Subtotal	19,414	6,840	2,244	10,330	7,505	6,175	390	390	0	525	750		50	0	800	1600
BULK LIQS	2,474															
GRAVEL	5,700															
BC Peace Rail Total	27,588															
South Peace																
PULP	3,800	570	*1615*	1,615												
GRAIN	12,500	12,500														
COAL	3,500	3,500														
LUMBER	5,205		3,728	1477	20,003	15,858	0	354	790	2881	4307		60	60	4427	8854
PEAS	125	125			[includes Rail transfer to 132 containers at Vancouver]											
OATS	660	660	0	0	175	0	0	75	0	0	0		100	0	100	200
GRASS SEED					1013	35	720	0	0	0	0		245	13	258	516
MALT BARLEY					*750*	*[truck to Bawlf/Camrose for upgrading]*				*750*	*1200*				*1200*	*1200*
SCRAP METAL	96			96												
SULPHUR	567			567												
Outbound Subtotal	26,453	17,355	5,343	3,755	21,941	15,893	720	429	790	3,631	5,507		405	73	5,985	10,770
CEMENT	456															
PIPE	196															
COAL	4,043															
BULK LIQS	1,159															
OTHER	246															
South Peace Rail Total	32,553															
NE Peace																
PULP	5,340	3,808	*766*	766												
GRAIN	3,000	3,000		0												
LUMBER	13,580	708	*8,626*	4,246	5109	989	1309	905	0	1200	2182		312	394	2888	5776
HAY	600	600	0	0	4,000	0	0	0	0	0	0		0	4,000	4,000	8000
PEAS	213	213	0	0	200	0	0	0	0	0	0	0	0	400	400	400
OATS	*160*	*130*		*30*	*264*									*527*	*527*	*527*
Outbound Subtotal	22,893	8,459	9,392	5,042	9,573	989	1,309	905	0	1,200	2,182		312	5,321	7,815	14,703
BULK LIQS	4,600															
OTHER	*4,000*															
NE Peace Rail Total	31,493															
TOTAL PEACE REGION INTERMODAL/TRUCK MARKET:					**39,019**	**23,057**	**2,419**	**1,724**	**790**	**5,356**	**8,439**		**767**	**5,394**	**14,600**	**27,073**
MOST LIKELY-Current Westbound Containers Trucked to Edmonton:													5,394	**5,394**		
VERY LIKELY - Current West and Eastbound Containers Trucked to Edmonton:											6,161		**6,161**			
LESS LIKELY - Total Containers Trucked to Edmonton or Transferred from Trucks at Vancouver:											**14,600**					

Source: Shipper and Carrier Interviews

95% of outbound Peace Region container transport demand is for Trans-Pacific exports and current Peace Region users of container transportation are split between:

- 60% that ***transload*** from trucks to containers at westcoast container terminals, and
- 40% that truck containers to inland intermodal terminals for ***transfer*** to container trains.

Many shippers (representing 60% of Asian export container shipments) feel it is more cost effective to transload from rail or truck to export containers in Vancouver rather than to load the containers directly at the Peace Region point of origin. That is because of the much heavier, and correspondingly cost-effective, load they can get on rail cars or "super b-train" trucks as well as direct access to a readily available container pool at the port.

Railcars carry net loads in the 80-90 tonne range and "super b-train" trucks carry net loads up to 40 tonnes. Note that while truckloads typically carry only half the net load of a railcar, creative carriers are often able to match up two-way hauls to bring truck costs closer to rail rates. (An example is a uniquely designed flat deck tanker trailer that carries bulk fuel inbound and dimensional lumber outbound.)

The balance of shippers (representing 40% of container export shipments) access container transportation via Canadian National and Canadian Pacific Railway Intermodal Terminals at Edmonton. Almost 90% of this is Asian export traffic of which most (three quarters) is compressed hay loaded directly into containers at origin and trucked to Edmonton.

Approximately one quarter of grass seed shipments are eastbound containers loaded directly at origin in the South Peace and trucked to Edmonton. Otherwise intermodal vans and international containers are transloaded from trucks at Edmonton for eastbound domestic and export shipment.

Results of the outbound container market survey are summarized in the following table.

Current Container Traffic	**From B.C. and South Peace**	**From North and East Peace**	**TOTAL/YEAR**
containers ***transferred*** from trucks at inland intermodal terminals	500 containers/year (lumber/grass seed/oats)	2,200 containers/year (lumber/hay)	2,700 containers
containers ***transloaded*** from trucks at westcoast container terminals	6,300 containers/year (lumber/pulp/malt barley)	5,600 containers/year (lumber/wood pellets)	11,900 containers
Total Container Traffic	6,800 containers/year	7,800 containers/year	14,600 containers

The table above identifies what we assume to be the *current outbound market* for extending rail container service into the Peace Region. We base this assumption on the fact that these are already multi-modal shipments moving at least in part by container, but relying on truck transport to access the Peace Region.

Assuming that rail container transportation and local drayage can be made more cost effective than truck, we are logically lead to believe that rail substitution for truck movement for what is ultimately a container shipment market should be attractive to shippers. However, we have structured a cumulative market assessment that recognizes different circumstances shippers face for truck versus rail transport:

Peace Region Rail Container Market Segmentation

(Forty Foot Equivalent Units)

Most Likely - Current Westbound Container traffic trucked to Edmonton:	**5,400 containers**
Very Likely - West and Eastbound container traffic trucked to Edmonton:	**6,200 containers**
Less Likely - Total container traffic trucked to Edmonton or Vancouver:	**14,600 containers**

On this basis we have determine that the *most likely* market segment to move immediately to a regional rail service is 5,400 containers/year of Asia Export container traffic. Most of this is compressed hay loaded into containers at origin by shippers on or close to rail, but for lack of regional rail container service, forced to truck containers to Edmonton intermodal terminals.

It is considered *very likely* that an additional 800 containers/year currently transloaded from trucks originating eastbound shipments from the Peace Region would be attracted once the service was proven effective (cumulative total of 6,200 containers).

It is considered *less likely* that the large 8,400 container segment of predominately forest products shipments currently accessing containers at Vancouver could be divorced from contract trucking operations which have proved very cost and service effective. However, this segment completes a full current market of 14,600 container loads/year that is a realistic target for extending rail container service to the Peace Region. (Forty foot Equivalent Unit containers assumed at average 22.5 tonnes/load).

The likely level of cumulative market build-up quantified above was somewhat subjectively assessed based on qualitative aspects of survey results summarized below.

Compressed Hay

Three compressed hay shippers are located within a 25km radius of Nampa. Each of these shippers currently originate Asian export containers and truck them to Edmonton Intermodal Terminals. To avoid packaging damage which is inevitable with transloading to containers at Vancouver, compressed hay shippers are committed to loading and sealing a single container at origin for transportation through to the customer in Asia.

Under normal market and growing conditions, together these compressed hay shippers can originate more than 10 forty foot containers that must be driven to Edmonton every day.

All of these shippers feel that truck movement of containers to Edmonton is too costly and have taken or considered a number of steps to cut those costs including:

- Providing their own tractors, trailers and drivers to Edmonton (Macay/Northern/Falher)
- Willing to invest in a Mackenzie Northern rail container transfer capability (Northern/Falher)
- Seeking a joint venture container transfer facility with BC Rail at Dawson Creek (Falher)

Forest Products Shipments

The most efficient transportation for most forest products shipments is by railcar due to the much heavier loading available compared to truck. Even the heaviest loading "super b-train" truck, load configurations can only handle half the weight of a rail car (e.g., a 40 tonne truckload versus an 80-90 tonne carload).

Nevertheless, many forest products producers find truck effective for a combination of reasons:

- A heavier loading railcar does not guarantee a lower cost rate when loading direct to rail.
- Availability of two-way truck hauls reduce costs substantially toward lower rail rates.
- Access to competing mainline railway reloads makes regional truck hauls attractive.
- Access to Western Canada regional markets is faster with better service by truck.
- And, a number of off-line mills must at least originate traffic by truck anyway.

In some cases, a longstanding negative relationship with the rail carrier has precluded on-line traffic origination. In order to reach competitive rail reloads, regional trucking operations have been optimized to achieve two-way hauls with a unique flat deck tanker trailer that can move bulk liquids inbound and dimensional lumber outbound.

Container transportation of Forest Products is usually for Asian exports transloaded from heavy loading trucks or heavier loaded railcars at the ports. The perception is that saving the double handling cannot be offset by the lighter payload inherent in a container loaded at origin and moved to port by truck.

The survey revealed that beyond basic cost relationships, there are other operational considerations against the concept of originating forest products shipments in containers:

- Build mixed loads at Vancouver from several mills (Weyerhauser and Tolko).
- Require trucking to meet tight vessel cut-off times (Weyerhauser).
- Transfer most export traffic, more than 90%, to bulk ships (Canfor).

However, the survey also revealed some operational/market attractions if a rail container service to the Peace Region could reduce total transportation and handling cost to port:

- Avoid double-handling damage as well as cost (Louisiana Pacific).
- Eliminate problem of matching export containers to truckloads (Louisiana Pacific).
- Full container loads for Asian export can be loaded at off-line OSB mill (Ainsworth).
- Container attractive to build Asian market for new off-line wood fuel pellet mill (La Crete).
- Container attractive to build Asian market for on line-dimensional lumber mill (Boucher).

Grain Shipments

Grain companies, are focussed on the high volume, heavy loading capacity of rail trainload shipments increasingly originated from high throughput elevators. Although rapidly emerging Identity Preservation criteria may require containerization, the major grain companies see this as most effectively accomplished with consolidated investment in the port area:

- For bulk loading container facilities, or
- Automated 100 pound bagging facilities, and
- Continued reliance on high throughput elevator/bulk trainload systems.

Others see it differently, especially for niche markets. CN has advised us of a new specialty grain container service CN are providing with Marine Container Services to make twenty foot containers available for storage and transportation of lentils from the farm gate in Southern Saskatchewan - completely by-passing the traditional elevator system .

Another niche market opportunity is Malt Barley, over 30,000 tonnes of which is trucked from the South Peace to Canada Malting in southern Alberta for upgrading and subsequent container shipment to Asian customers. A cost-effective rail container service could allow that upgrading and container loading to take place in the South Peace (Sexsmith Coop).

Grass Seed Shipments

For some while European exports were a major market for grass seed shippers. With the Dutch now producing grass seed, the market for Peace Region producers has largely shifted to North America. Generally this is a "just-in-time" market for which truck and/or domestic intermodal service is most attractive:

- To the US Westcoast backhaul truck service is readily available in the Peace Region.
- To the US/Canada East, backhaul intermodal van service ex Edmonton is generally attractive
- Elsewhere consistently reliable truck service is important.

Peas and Oats

Peas and oats are generally moved out of the Peace Region in heavy loading bulk hopper cars to obtain the best rates. Export shipments are loaded to bulk ships or bagged and loaded to marine containers at Vancouver. Closer regional markets are served directly by truck.

Potential additional traffic for a successfully introduced regional rail container service includes some portion of over 4,000 truckloads directly delivered to destination (2,400 truckloads to the U.S. West/I-5 Corridor and 1,700 truckloads to Western Canada).

As well, some existing rail shippers might convert to locally originated container shipments for over 8,000 carloads currently transloaded to ships at B.C. ports. This is especially true for specialty grain niche markets seeking identify preservation from the farm gate through to overseas customer delivery with a single, sealed container.

2.2 Inbound Users of Container Transportation.

Potential users of inbound container transportation are assumed to be the "big box" retailers concentrated in the Grande Prairie area. Peace Region "big box" retailers were surveyed to determine their interest in taking advantage of empty northbound rail containers as an alternative to truck for supplying their stores. This could serve to partially balance the present southbound movement of full containers and reduce the cost of the service for all shippers.

Results of the inbound "big box" survey are summarized in the following table:

Truck Loads	Annual Tonnes	Container Loads
Some 3,000 trucks/year	***Over 90,000 tonnes/year***	***Equivalent to 4,500 containers***

The inbound "big box" market surveyed is equivalent to 4,500 containers per year and shippers of one third of that traffic (1,500 containers) indicated that rail container transportation might be considered *under the right cost and service circumstances*. This market opportunity to balance container traffic flows is certainly attractive - but not an overwhelming consideration given that 1,500 inbound containers balances little more than a quarter of the *most likely* scenario for outbound container traffic. Even under the most optimistic conditions if all "big box" traffic was converted to containers coincident with realization of the full, but *less likely*, scenario for outbound container traffic, the traffic balance would only rise to 30%.

There were 10 retailers targeted for the inbound "big box" traffic survey: Canadian Tire, Costco, Shoppers Drug Mart, Westfair Foods, Home Depot, Totem Building Supplies, Wal-Mart, Sears, IGA and Home Hardware. The following survey results are reported for all except IGA and Home Hardware, who chose not to participate.

Home Depot

Home Depot has a store in Grande Prairie and will be announcing another store location. The Grande Prairie store is supplied with lumber from a distribution centre in Edmonton. Home Depot also has a contract with Reimer to consolidate and truck merchandise from all parts of the U.S., the nature and source of which can vary with the seasons.

For shipments from Edmonton, Home Depot uses Super-B train truck trailers with tri-axles. Each truckload weighs approximately 42,000 kgs. All shipments out of Edmonton move directly to the Grande Prairie store. No backhaul loads have been identified. It currently costs about $1,300 to move a truckload from Edmonton to Home Depot's Grande Prairie store.

Home Depot traffic to the Peace Region consists of:

- 1,300 truckloads per year for a total annual volume of some 55,000 tonnes.
- Equivalent to 2,200 containers per year (at 25 tonnes/load).

Although Home Depot could accept second morning delivery, they are not willing to interrupt their current supply chain to participate in a rail container operation as rail is perceived to impair delivery service to their stores.

Totem Building Supplies

Totem has a store in Grande Prairie that is supplied from its Calgary distribution centre. The main categories of goods are lumber and consumer merchandise.

Trucks are routed directly to the Grande Prairie store through Edmonton. The only backhauls are for product that is being transferred to other stores in Totem's system. Any merchandise returns are routed via their warehouse in Calgary.

Totem trucks between Calgary and Grande Prairie use B-Train trailers at 40,000 kg loads. Totem traffic to Grande Prairie consist of:

- 260 truckloads per year for a total annual volume of 10,400 tonnes.
- Equivalent to over 400 containers (at 25 tonnes/load).

Totem's interest in rail container service would be dependent on cost and only in relation to merchandise that is not time-sensitive.

Supply Chain Management (Wal-Mart)

Wal-Mart operates a store in Grande Prairie that is supplied with a variety of merchandise from the Calgary distribution centre. Trucks are routed directly to the Grande Prairie store and no backhaul traffic was identified.

SCM is a company that has been specifically created by the Tibbett & Britten Group to be the exclusive third-party logistics provider for Wal-Mart in this region. It has a 1.0 million square foot distribution facility located in Calgary. The Calgary distribution centre receives incoming shipments from Canada and the U.S. by both truck and rail.

Currently Wal-Mart traffic to Grande Prairie consists of:

- 156 truckloads per year estimated at approximately 4,000 tonnes/year.
- Equivalent to some 260 containers per year (at 15 tonnes/load)

SCM would not be interested in a rail container service at this time as it currently has transportation under contract, has set delivery times and would not be willing to accept second morning delivery. However, it may have an interest at some future date based on the relative merits of such a service.

Sears Canada Inc.

Sears operates a store in Grande Prairie, has a distribution centre in Calgary and terminals throughout Western Canada. They move merchandise to Vancouver, Calgary and Winnipeg by rail container.

Sears warehouses both hard and soft goods at their Calgary centre and trucks shipments to Edmonton for distribution to Grande Prairie and other stores in their system. Intermediate handling and cross-dock loading occur at Edmonton. No backhaul traffic was identified.

Sears trucks goods using 27' pups and 48' and 53' foot trailers. Grande Prairie traffic consists of:

- Approximately 200 truckloads per year estimated at 5,000 tonnes/year.
- Equivalent to over 300 containers per year (at 15 tonnes/container)

Sears would not likely be interested in rail container service to Grande Prairie since they currently use their own trucking firm, Sears Line Haul. They would also not be willing to accept second morning delivery as their merchandise is too time-sensitive.

Westfair Foods Ltd.

Westfair serves the Real Canadian Superstore in Grande Prairie, which is supplied from its distribution centre in Edmonton. Groceries and general merchandise are shipped to Edmonton by rail container and then transferred to Grande Prairie on Westfair's own trucks. Trucks are routed directly from Edmonton to Grande Prairie and there is about one backhaul per week consisting of some plywood. Trucks depart Edmonton at 8:30 PM every night and must be in Grande Prairie by 2:00 AM.

Westfair trucks goods to Grande Prairie using rocky mountain doubles carrying both groceries and general merchandise at about 20,500 kgs/load Traffic to Grande Prairie consists of:

- 400 truckloads per year with a total annual volume over 8,000 tonnes.
- Equivalent to some 550 containers (at 15 tonnes/load)

In fact, Westfair is looking for backhaul traffic to fill 4 - 5 empty trucks a day that are returning from as far north as Yellowknife. (There are no merchandise returns – empty pallets only.) However, it does not appear that Westfair would be interested in cooperating in a northbound rail container service. It is not willing to accept second morning delivery or to interrupt its current supply chain.

Canadian Tire

There are Canadian Tire stores in both Grande Prairie and Peace River - and farther north store locations include Dawson Creek, Fort St. John, Whitehorse and Yellowknife. There are 3 - 5 weekly truckloads per store. Loads are carried in 53' highway trailers and each load averages 12,500 kgs.

Up to 80% of merchandise is shipped to Edmonton from Toronto by rail container and then trans-loaded to truck for the final journey. The remaining 20% is trucked out of the Calgary distribution centre.

Canadian Tire traffic to the Peace Region consists of:

- Approximately 400 truckloads per year and an annual volume over 5,000 tonnes.
- Equivalent to 500 containers per year (at 10 tonnes/load).

Truck transportation is not under contract and Canadian Tire would have an interest in looking at rail container north of Edmonton, providing it met their schedule requirements. Second morning delivery may be acceptable since delivery deadlines can very depending on the type of merchandise. It was suggested that containers could also be loaded directly out of the Calgary distribution centre.

Costco

Costco has one store in the Peace Region located at Grande Prairie. It is supplied mainly from their Langley, B.C. depot, except for merchandise that is delivered directly from the vendor. The Langley facility receives vendor shipments from both the U.S. and Canada and it is noteworthy that it receives 10 containers a day from offshore.

Transportation is contracted to PWS Trucking, which operates four 53' tridem trailers per week to Grande Prairie with 18,000 - 23,000 kgs of groceries and general merchandise per load. PWS does some backhaul out of region but not for Costco. It is estimated that it costs $1,400 - $1,500 to move a truckload from Langley to Grande Prairie.

Costco traffic to Grande Prairie consists of:

- Over 200 truckloads per year for a total annual volume of about 4,000 tonnes
- Equivalent to some 260 containers per year (at 15 tonnes/load).

Costco might be willing to consider rail container service for supplying its Grande Prairie store since its shipments are not that time-sensitive and it may be willing to accept second day delivery.

Matrix Logistics Services (Shoppers Drug Mart)

Shoppers Drug Mart has three stores in Grande Prairie and a store each in Edson, Dawson Creek, and Fort St. John. All six stores are supplied from the Matrix distribution centre in Calgary. Matrix is a company that has been specifically created by the Tibbett & Britten Group to be the third-party logistics provider for Shoppers Drug Mart.

Transportation is provided by Byers Transport under an LTL arrangement. An average of 24 skid-loads of merchandise are transported to the six stores each week. While this normally moves in two or three different trucks, it represents the weekly equivalent of one 48' trailer-load.

Shoppers Drug Mart traffic to the Peace Region consists of:

- Approximately 50 truckloads per year at an estimated annual volume of 1,000 tonnes
- Equivalent to 100 containers per year (at 10 tonnes/load).

Merchandise is time-sensitive and Shoppers insists on one-day delivery. Shipments destined for Grande Prairie leave Calgary at 8:00 AM and arrive at the three stores at 6:00 AM, 7:00 AM and 8:00 AM the next day. Under these circumstances it appears unlikely that Shoppers would be interested in rail container service.

Inbound Survey Summary

It is obvious that the major retailers account for the movement of a sizable volume of merchandise into the Peace Region from southern distribution sources. It is also obvious that taken together these volumes would translate into multiple container loads per week.

A number of retailers already have contract arrangements with trucking firms or carry out this function with their own private fleet. We were told by many of the retailers, or their logistics providers, that merchandise deliveries are time-sensitive and that a rail container service could not perform effectively within such parameters.

However, half of the respondents, including Totem, SCM (Wal-Mart), Costco and Canadian Tire, indicated potential interest in a rail container service where time is not so critical and where containers could compete effectively in terms of price and other conditions of service. To successfully capture this market, conversion of today's merchandise traffic to a rail container system would entail extensive coordination in terms of differing delivery schedules, differing supply points in the south and the need to consolidate traffic for rail shipment.

3.0 Container Opportunity Assessment

This section of the report outlines the current marine container transportation system and the potential for short line railways to better extend that system into the Peace Region.

3.1 Current Container Transportation System

Currently Trans-Pacific marine container lines position empty containers for Peace Region shippers at Vancouver Container Terminals or Edmonton Intermodal Terminals[1] It is up to the Peace Region shipper to arrange truck pick-up and delivery of the containers from container yards at either of these locations. If containers are picked-up and delivered at Edmonton, dedicated railway container trains provide express corridor connections to ports on both coasts as well as to the U.S. Midwest/Chicago market.

Peace Region shippers complete bookings with the marine container lines. However, in Edmonton container release is from a CN or CP Railway Intermodal Terminal. While it is the responsibility of the railway to position empty containers at the direction of the marine carrier, the railway has the right to use the container for one domestic shipment. As a result inland container positioning can result from a combination of westbound or eastbound loaded domestic moves, or from empty return containers dropped off in-transit from the Chicago/Midwest market.

The predominately eastbound flow of marine container traffic from Asia to North America, and especially to the U.S. Midwest/Chicago market has normally advantaged Alberta shippers with a steady supply of containers for westbound export loading - at attractive backhaul rates. However, some marine carriers advise that this situation is changing with an ever greater influx of Chinese import traffic to North America. The marine container lines may no longer be able to afford to hold empty containers for low rated Alberta export traffic - and jeopardize container availability for higher revenue import traffic from China.

As container supply strategy shifts, marine carriers may tighten container fleet control, focus empty return more on ports than inland terminals and/or raise backhaul rates. This in turn may dictate the operating strategy for potential connecting rail container service to the Peace Region.

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[1] Typically Trans-Pacific container lines provide service from container yard to container yard, while Trans-Atlantic lines are more likely to provide a door/door service.

3.2 Container System Incentives And Constraints

The overarching criteria for extending rail container service to the Peace Region is that it must be economically viable - and environmentally sustainable. More specifically if rail based container operations can:

- reduce total transportation costs for Peace Region container users
- increase profitability for Peace Region container service providers
- provide secure transportation quality control for new business niches
- and, improve greenhouse gas emissions by substituting rail for truck

then the opportunity should become economically viable.

Reduce Shippers Total Transportation Costs

Shippers will have a strong incentive to use the system, if current truck transportation and double-handling costs can be reduced with rail operations. The current costs reported by shippers which rail providers will have to beat include:

Export Container Moves Westbound via Vancouver Container Terminals (South Peace Lumber)

- Super B-Train truck load from Grande Prairie to Vancouver $45/tonne
- Transload cost from truck to container at Vancouver $10/tonne
- Total Cost to Vancouver Export Position ($1,375 per FEU) $55/tonne

Export Container Moves Westbound via Edmonton Intermodal Terminals (North Peace Lumber)

- Super B-Train truck load from Manning to Edmonton $20/tonne
- Transload cost from truck to container at Edmonton $5/tonne
- Loaded container transportation by Class 1 Railway to Vancouver $30/tonne
- Total Cost to Vancouver Export Position ($1,375 per FEU) $55/tonne

Export Container Moves Westbound via Edmonton Intermodal Terminals (Nampa Hay)

- Empty container positioning and loaded return to Edmonton $30/tonne
- Loaded container transportation by Class 1 Railway to Vancouver $30/tonne
- Total Cost to Vancouver Export Position ($1500 per FEU) $60/tonne

Domestic Intermodal Moves Eastbound via Edmonton Intermodal Terminals (Rycroft Seeds)

- Empty 48' or 53' van positioning and loaded return to Edmonton $20/tonne
- Loaded intermodal van transportation by Class 1 Railway to Toronto $66/tonne
- Total Cost to Toronto ($2,150 per 53' Van) $86/tonne

Domestic Inbound Truck Van Freight to Grand Prairie "Big Box" Retailers:

- From Langley to Grande Prairie ($1500 per 53' Van @55,000#) $66/tonne
- From Edmonton to Grande Prairie ($1300 per Super B @ 90,000#) $33/tonne

Increase Profitability For Container Service Providers

In order to beat the level of current transportation rates identified above, rail container service providers will have to be creative in cutting cost, maintaining service quality - and increasing their profitability. Potentially extending rail container service from Vancouver or Edmonton, three regional shortline railways serve the Peace Region:

- B.C. Peace - served by BC Rail connecting directly to the Port of Vancouver.
- South Peace - served by Alberta RailNet connecting to CN Rail near Jasper (Swan Landing).
- N. E. Peace - served by Mackenzie Northern Railway connecting to CN north of Edmonton.

B.C. Rail has recently discontinued intermodal service and is presently sidetracked by re-organization proposals. However, both Alberta RailNet and Mackenzie Northern Railway are actively interested in pursuing the Peace Region container opportunity.

Operationally, either or both of these regional railways in Alberta could shuttle containers between the Peace Region and Edmonton Intermodal Terminals; or interchange flat carloads of containers in normal train service to Vancouver. A small dedicated fleet of flat cars will be required and container transfer capability provided in the Peace Region.

The viability of Peace Region rail container service will depend upon the extent to which the total cost of current truck haul, container transfer or transload can be reduced. That in turn will be a function of rail routing and how close the railway can bring the container to the shipper. Alberta RailNet connects to the CN mainline at a point that is already one third of the distance from Edmonton to Vancouver. Mackenzie Northern Railway connects over the CN Westlock subdivision through Edmonton to the CN mainline.

While the Mackenzie Northern connection is longer - unless a shuttle to the Edmonton Intermodal Terminal is established - the market segment we have have determine *most likely* to move immediately to a regional rail service is compressed hay shipments located on or very close to Mackenzie Northern Rail.

Some of these shippers at Nampa and Falher have indicated a willingness to invest in the required container transfer equipment and to offer that capability to other shippers for a fee - if the railway offers a container service. As well, in the Grande Prairie area, both GP Reload and Wiebe Transport have indicate a desire to pursue a regional container terminal capability.

The final route configuration for extending rail container service, and locating container transfer facilities, in the Peace Region will be a function of total transportation cost savings below current trucking options for the greatest number of shippers.

The Class 1 Railway Constraint

Regardless of how creative the regional shortline rail container service providers become in reducing Peace Region transportation costs, it is irrelevant if there is not a willing Class 1 railway connection. The transcontinental Class 1 railways offer dedicated container trains connecting westcoast ports to Eastern Canada and the U.S. Midwest/Chicago market through major intermodal terminals at Calgary and Edmonton.

The current Class 1 connecting railway will not likely see an immediate improvement in profitability from proposed extension of rail container service into the Peace Region. In fact, a revenue neutral or revenue reduction result will apply under the *most likely* and *very likely* outbound container market projections:

- Most of this traffic is already captured at the Edmonton Intermodal Terminal, and whether Peace Region originating containers are shuttled in by truck or train will not change the Class 1 Railway revenue.
- If the Peace Region originating container traffic is effectively converted from intermodal to carload traffic on a through move to Vancouver, from Grande Prairie via Swan Landing the Class 1 railway could see a revenue reduction.

Given this short term profitability constraint on Class 1 Railway revenues, it will be critical to convince a Class 1 Railway of strategic, longer term business development benefits including:

- diverting current container transload traffic at Vancouver from trucking operations
- cutting regional container transport costs to offset impending westbound export rate increases
- retaining/increasing container market share by keeping it captive to a specific Class 1 route.
- maintaining the viability of regional short lines to continue connecting carload traffic.

Provide Secure Transportation Quality Control For New Business Niches

While container transportation is a proven catalyst for optimizing muti-modal transfer operations and costs, it is increasingly attractive for quality control as well. Peace Region economic diversity may at some point depend upon availability of containers to insure product quality and identity preservation for transportation of specialty grain crops.

Improve Greenhouse Gas Emissions By Substituting Rail For Truck

Meaningful (i.e. financial) rail incentives and/or truck disincentives implemented to achieve Kyoto targets would further enhance the viability of Peace Region rail container service. Once implemented, greenhouse gas emissions would be correspondingly reduced as:

- It is considered very likely that over 6,000 truck trips on Highway 43 to Edmonton would be eliminated.
- And, if Vancouver truck traffic can also be converted to container, a total of over over 14,000 truck trips would be eliminated.

4. Implementation Suggestions

In conclusion, this study suggests incremental set up of Peace Region container service with:

- A basic North/East Peace container capability focussed on compressed hay exports.
- A flexible, extended container capability focussed on smaller Peace Region shippers.
- A permanent, full service container terminal focussed on larger South Peace shippers.

This incremental approach would seek to gradually grow the market starting with a single, mobile container lifting facility that would not split initial traffic among multiple container terminals until higher volume thresholds are achieved. Until that threshold is reached, we think some sort of low volume,"mobile capability" that can minimize truck drayage by bringing rail container service direct to on-line shippers and closer to off-line shippers is worth pursuing.

This is a definite departure from the North American railway norm and would require Peace Region service providers to come up with some creative approaches to keep that departure simple, practical and cheap. This capability could be provided (as offered) by one of the on-line compressed hay producers, with a modified forklift transferring containers from rail cars directly to the plant (no trailers required).

Another approach we have in mind is to apply Side Lift Trailer technology common in European and Australian rail container applications[2]. (We also understand that a sidelifter is in use in Edmonton.) A sidelifter could literally follow container car setouts and either provide short shuttle transfers directly to shippers facilities or transfer containers to shippers trailers for longer highway hauls.

The SLT could also move quickly between the disconnected short lines of the Peace Region to avoid limiting container applications to the advantages of just one railway connection. Even following establishment of a fixed terminal location, the SLT would continue to provide a supplementary capability to prove up emerging markets beyond a reasonable trucking radius of the container yard (s).

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[2] Manufacturers estimate to modify and deliver an SLT for Peace Region rail container operations is $300,000.

Compressed hay shippers located on or near rail in the Falher/Nampa area are the most significant and *most likely* market segment to move immediately from truck to rail movement of containers they are already loading. A simple, shared lifting facility (e.g., modified forklift or Side Lift Trailer) could actually allow one or two of them to work containers directly into plants that are adjacent to the rail line with no trucking required. The same forklift could transfer containers between railcars and trailers for other shippers in the area. And, at Nampa, for example, the forklift could be driven to Boucher Bros. lumber to provide container transfer directly to the mill.

If this proves, successful, the capability could be further extended on a pilot basis to the *very likely* but less substantial eastbound market of smaller grass seed and forestry products shippers concentrated around Hines Creek, Rycroft and Sexsmith. Lifting equipment could be driven to alternate railway container transfer points both to test market other rail connections and other traffic opportunities.

Ultimately as optimum traffic flows and rail operations are firmed up, at some point increased volume may offer economies of scale that warrant investment in higher capacity, more efficient, permanent container terminal (s). At that point high volume container lift capability would become viable to further reduce container handling costs, increase service and begin capturing inbound "big box" and larger shipper truck traffic typical of the South Peace around Grande Prairie.

Regardless of the ultimate combination of full service terminals and mobile lifting equipment, container transportation can potentially bridge recent gaps among the Northern Alberta short line railways to provide better access for all of the Peace Region. As well, extending rail container capability can potentially reduce highway traffic and associated greenhouse gas emissions. In conclusion, we suggest that there may be a compelling case for Federal Kyoto impact funding of container lifting capability to help make this happen.[3]

[3] One such funding source may be the Transport Canada *Freight Sustainability Demonstration Program*